# Exhibit 50

SUPERIOR COURT OF THE STATE OF CALIFORNIA
COUNTY OF ALAMEDA
BEFORE THE HONORABLE STEPHEN KAUS
DEPARTMENT 19
VIA ZOOM CONFERENCE
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CHRISTINA G. PRUDENCIO,
Plaintiff,
vs. No. RG20061303
JOHNSON & JOHNSON, et al.,
Defendants.
_____/

REPORTER'S TRANSCRIPT OF PROCEEDINGS

(Trial - William E. Longo, Ph.D.; Nancy Musco)

Wednesday, July 7, 2021

Full Session

Taken before EARLY K. LANGLEY, B.A., RMR, RSA
CSR No. 3537

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you're looking for is magenta in parallel; right?
A. Yes and no.
Q. I guess we can look at -- we'll look at that in a second for Su.
But when you are identifying chrysotile in Johnson & Johnson's talc in parallel orientation, it is typically based on yellow to golden yellow, and sometimes a little bit of red; correct? 09:07:05
A. Not exactly. We have -- we have golden yellow to reddish to magenta. So we see that range. 09:07:32
MR. DUBIN: Your Honor, I would like to read from Dr. Longo's deposition testimony in Forrest, February 8th, 2021, line 75:23 to 76:9.
MR. SATTERLEY: Let me try to find that in the folder. 09:07:55
Can you give me the date of that so I can try to find that --
MR. DUBIN: February 8th, 2021, line 75:23 to 76:9.
MR. SATTERLEY: I found the transcript. 09:08:48
You said page 76?
MR. DUBIN: 75, line 23 to 76, line 9.
MR. SATTERLEY: I think, Your Honor, that's consistent what Dr. Longo said today.
THE COURT: I'm going to allow it. 09:09:36

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MR. DUBIN: Thank you.
BY MR. DUBIN:
Q. The question to you in your deposition was:
"And, again, it may be that if you don't know anything about this we'll have to talk about it in depth at some point. But do you -- is it correct that MAS's identification of chrysotile in the Johnson & Johnson's products, in parallel orientation, you're typically evaluating it based on the yellow coloration of the particle?" 09:09:47 09:10:01
Your answer:
"Only in parallel. Yellow to golden yellow. Sometimes you'll see some red, a little bit of red, but that's the range we've been seeing." 09:10:12
So I want to look at then an example. And we'll look at a couple of your chrysotile particles.
So this is -- if you need it, I have citations on here to your report that we've uploaded. 09:10:36
MR. DUBIN: But -- and you'll see that just in case you need it, Mr. Satterley.
It'll be identified as C6146, and have a page number. But --
MR. SATTERLEY: Say that again. D6... 09:10:52

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MR. DUBIN: It's right on the screen. C6146, page 296 of 647, if you need it. But it's right on the screen.
MR. SATTERLEY: I'm sorry. It's over on the side. It's really hard for me to see that fine print. C-6146. Thank you. 09:11:13
(Whereupon, Defendant's Exhibit C6146 was marked for identification.)
BY MR. DUBIN:
Q. So this is an example of a particle. If we see where it has the micron bar 48.9, that's an example of a particle that you've identified as chrysotile; correct? 09:11:19
A. That is correct.
Q. And first we can see it's yellow; right? 09:11:31
A. Yes, sir. It has some, what I would say -- you know, we won't go into the shades of yellow, but you've got yellow to gold to sort of a goldish-brown, brownish-gold.
Q. And just so we can orient ourselves, these -- these things over here, these particles, these big plates, you're not denying that that is talc; right? 09:11:51
A. No. That's what it is.
Q. And that -- just to -- again, we'll talk about the orientation. But that's the exact -- the exact 09:12:14

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same colors that you're seeing in this particle here, in parallel orientation, that you're calling chrysotile asbestos?
A. No. I'm not saying what you have above it. All those particles that aren't fibers are -- are not -- is not chrysotile. It's talc. It's not fibrous. 09:12:30
And, again, we talked about this yesterday. You're pointing to something that's in a 45-degree direction. It has to be perfectly parallel to see this in colors. 09:12:47
If you were to turn that one particle you're pointing to parallel, there would be different colors. You cannot make that comparison.
It's -- the science is not there. That's why you have to compare the colors at parallel and perpendicular because you're using an analyzer polarized lens that's sending the light in all one direction. That's not appropriate to make those comparisons. 09:13:02 09:13:21
Q. Well, I guess we'll talk about it.
But even here you see, for example, parts of the talc plate are parallel, like the bottom of the talc plate?
A. But still you have, what I would say, different 09:13:37

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shades of yellow there. But it's a plate. We would never call that chrysotile. And if you go to elongation, most of those plates will disappear versus the particle, the chrysotile bundle, which will not. It's -- you can't make that comparison. That's -- 09:14:00 that's not appropriate.

Q. Okay. Well, we'll come back to this image in a second.

But I want to talk since you -- you just mentioned this idea of different shades of yellow. 09:14:10

Now, there's a Dr. Su, who I think we've already heard about because he wrote one of the methods for PLM analysis that you demonstrated in your direct examination; right?

A. Yes, sir. The -- the 2020 document that he -- 09:14:34 that he wrote.

Q. You also showed the 2003 as part of your method for dispersion staining; right?

A. Yes.

Q. And to be clear, he is a very well-respected 09:14:49 scientist; right?

A. Yes, sir.

Q. Basically every lab in the country that does that -- this kind of work has Su's tables for PLM?

A. Yes, sir. Well, if they're accredited -- I 09:15:08

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can't say every lab. But any lab that's doing PLM commercial work probably has these Su tables, 4A and 4B for chrysotile, and then the other tables for grunerite, anthophyllite, tremolite, actinolite for PLM as well as zone axis patterns -- not patterns, but the 09:15:35 zone axes -- the number of zone axes you can have for each of the minerals.

Q. And he's somebody you think of as an authority in terms of mineral identification through staining techniques; correct? 09:15:54

A. Yes, sir.

Q. So I want to look -- we're going to look at both his 2003 and the 2020 papers entitled "Determination of refractive indices of asbestos minerals by dispersion staining: Why and how." 09:16:08

And so the first part of this that -- I guess actually, let's look at this first.

So in parallel -- he discusses what chrysotile should look like in parallel orientation, and here he has a section entitled "How the magenta CSDS color of 09:16:40 chrysotile in 1.550 HD oil is formed," and there's that Y symbol, which is gamma, which lets us know we're talking about parallel; right?

A. Yes, sir.

Q. And so he explains in this why chrysotile looks 09:17:00

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magenta, and part of this is just understanding the way light works, right, that white light is actually composed of many different colors?

A. Correct. I apologize. You showed the 2003. Is this in the 2003 method? 09:17:25

Q. This is the 2020.

A. Oh, I apologize. Because you showed the 2003. I was confused.

Q. No. I only had one document on here, but I will talk to you about 2003 in a bit. 09:17:37

A. Okay. I apologize.

Q. No problem.

But white light is composed of different wave -- different colors; right?

A. Yes, sir. It's the prim- -- white light has 09:17:49 the primary colors in it, and going through the prism causes what's known as dispersion, and then coming out of the prism, because of the angle, separates them out to what you see.

Q. Right. And what you see is impacted by what 09:18:07 light hits your eye; right?

A. Well, the angle that you see it impacts it. It doesn't impact the (Zoom audio interference.) -- impacts what you're seeing. In this case, you're not using a polarizer (Zoom audio interference.) -- 09:18:26

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THE COURT: Dr. Longo, I think you need to start that answer again. It broke up somewhat. You started with "The angle you see it impacts it. It doesn't impact the" -- and then it broke up.

THE WITNESS: It doesn't impact your field of 09:18:44 view or what angle you're looking at it because the white light coming in is not going through a polarized lens initially.

Unless they're suggesting that the -- what -- there's a slit here, and if you -- and if that's a 09:19:04 polarized lens, if you were to look at it at different angles, you would see different colors.

BY MR. DUBIN:

Q. Okay. Well, they have maybe a diagram about this as it relates to magenta. 09:19:23

So it says:

"In the specific case of chrysotile, parallel 1.550 oil combination, because F blue and C red are non-matching wavelengths, they are not blocked by the central stop and 09:19:49 recombined after passing through the CSDS objective lens to form a magenta CSDS color which reaches the eye of the analyst."

Do you see that?

A. I do. 09:20:03

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Q. So basically, what they're saying is that red and the blue end up combining so that you see the color magenta; right?
A. For those particular refractive indices, that would be correct, as long as the chrysotile bundle is refracting those specific wavelengths. 09:20:18
It doesn't say that this is always going to happen, because if you go to the Su tables, they have a range of refractive indices that you would expect for chrysotile. They don't have a range of refractive indices that only makes magenta. 09:20:38
So, yes, that explains how it happens, but that is not at all saying this is what you will always see for chrysotile.
Q. We're going to talk a little later what the refractive indices are for chrysotile with some x-rays. 09:20:53
Just another way to look at it -- so we can combine colors, so you end up getting magenta when you have a combination of the red and blue colors; right?
A. That's correct. 09:21:19
Q. And so another thing that Dr. Su mentions in his 2020 publication -- we've looked at this a little bit before.
But it warns about using yellow in these types of analyses. It says: 09:21:40

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"Experience tells us that yellow is the hardest CSDS color to be quantified and should be avoided at all costs. The same yellow CSDS color could be called golden yellow, yellow, light yellow, pale yellow, et cetera, by different analysts, in the meantime is more susceptible to the color temperature of light source and the type of daylight filter used in other CSDS colors." 09:21:58
Do you see that? 09:22:12
A. But that's not an accurate statement in how you phrased that. You said for "these types of analyses.
This is -- this is under the amphibole section, has nothing to do with chrysotile.
Q. So is it really your testimony that when it says, "The same CSDS color could be called golden yellow, yellow, light yellow, or pale yellow," that that could only happen if you're talking about amphibole as opposed to yellow in other contexts? 09:22:26
MR. SATTERLEY: Objection. Argumentative, Your Honor. 09:22:46
BY MR. DUBIN:
Q. I'm asking. Is that your testimony?
THE COURT: Overruled.
THE WITNESS: My testimony is that it's only in 09:22:51

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the amphibole section. Doesn't say anything about chrysotile. And that's his opinion. It's not --
Our analysts were trained by Walter McCrone. There's -- and I just -- you know, and our analysts have been trained and have the experience where they can determine that by all the years of experience. 09:23:11
That does not apply to our lab.
And I -- if it was for chrysotile also, my question would be, why is it only in the amphibole section. 09:23:28
BY MR. DUBIN:
Q. I thought we addressed that, because chrysotile isn't supposed to be appearing yellow in parallel. So why would they talk about it in the chrysotile section?
A. Well, that's not true. The -- the -- it's the shade of yellow. And the Su tables give you the range of parallel refractive indices that goes all the way from 400 all the way to 800. Why would -- and he says, "This is the range you would see." 09:23:40
And also, if you go back to McCrone, 1974, he has that range. And what we're looking at is not those big giant bundles. 09:24:02
And if you look at our 1866B where the bundle has different thicknesses, you see yellow, or yellowish-orange. 09:24:23

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So what you're saying is it only can be these refractive indices, and that is not true.
Q. We can look at an example of this, and we're going to look at this in a couple different ways.
But, for example, here, there's a yellow, right, and you give the refractive indices for it as 1.567 to 1.570; right? 09:24:41
A. Correct.
Q. And so if we look on a -- for example, on a color chart, that means you're identifying the range as this specific yellow; right? 09:24:59
A. Right at close to the yellowish -- yellowish-gold, yes.
Q. If, for example, somebody said, "Well, I see some more whiter yellow down here, so the brighter yellow than you've recorded," that could change your refractive indice calculation; right? 09:25:19
A. I don't know who the "somebody" is. Our analysts have been doing this for -- both of them -- 30 years. It's the reproducibility, and it's the birefringence. 09:25:38
Q. Well, we'll look at some more examples of the color calls.
What I'm pointing out to you is, how you characterize a yellow and the way you're doing it will 09:25:51

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impact where you place the wavelength and the refractive indice -- indice along this line of yellow; right?
A. If you don't know what you're doing, yes. I guess that's possible that somebody -- some newly minted PLM analyst would have trouble with that, but not the experience -- and if this was all true, the Su tables would not be providing you wavelengths for chrysotile down to 400 and all the way to about 780 to 820. I think 820 would probably be the lowest refractive indices we've seen. 09:26:09 09:26:36
Q. I mean, you keep making me go back to this. You said the Su tables provide you refractive indices down to 400?
A. About that, 430, something. I haven't memorized it, but it definitely goes down there. 09:26:53
Q. Actually, no. That's your copy of the -- of the -- this color chart where you only have yellow down to 400, and that's where you start calculating the refractive indices; right? 09:27:13
A. If we were -- if we were to have those, but in order to -- if you were to go to table -- Table 4, we could look at the refractive indices that are under the chrysotile asbestos range.
Q. Well, I mean, the actual Su table provides -- 09:27:31

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the yellow goes down to wavelengths substantially lower than that; right?
A. I'm not talking about the color chart. I'm talking about Table 4A and B.
If you look at that, you'll see that the refractive indices are in the range that we're reporting. 09:27:48
Q. Okay. We'll talk about some more examples of this.
But, for example -- let's go -- we'll do this in the context of birefringence instead. 09:28:04
So let's understand first what birefringence is and how it's calculated, and then we can talk a little bit more about some of these issues.
So the way you defined "birefringence" in your testimony, I believe, was "parallel minus perpendicular"; right? 09:28:39
A. Yes, sir. That's how you calculate the birefringence number for, which essentially is the intensity of the birefringence based on the birefringence's coefficient for the particular mineral. 09:29:06
Q. And what I think that you said is "chrysotile, lower birefringence; talc, higher birefringence"; right?
A. Yes, sir. 09:29:27

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THE COURT: Could I interrupt for one second. Juror Number 1 has pointed out that there is a shadow on the Elmo. And it's not important right now, but on the color charts, it kind of affects what they look like. I don't know what that is. 09:29:39
MR. DUBIN: I can try to call them up -- well, that's the -- with the Elmo, the thing that --
THE COURT: All right. I'm just passing on the message.
MR. DUBIN: No, I appreciate that. Maybe we'll call -- call some of them up, but... 09:29:51
BY MR. DUBIN:
Q. So, again, if -- so to be clear, just so we know a little bit what we're talking about, so if the colors -- in other words, the colors of parallel and perpendicular that you are comparing, if the colors are closer together, that would result in a lower birefringence, more like chrysotile, and if they're farther apart, it will result in a higher birefringence, more like talc; right? 09:30:09 09:30:28
A. Well, if it's in the appropriate range, closer/further apart.
So talc typically will have birefringence about 0.045 and above, and chrysotile will have a range of birefringence. I think the lowest is around .005 or -6 09:30:44

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up to 0.017.
And sometimes it will fall a little bit out, but that's usually the average range.
Q. And just so we know how you calculate birefringence, in some of the -- if we look at, for example, the -- for a number of these particles, there may be a range, and that range could be bigger or smaller. But you'll see that you provide a refractive index range for many of them; right? 09:31:05
A. Yes, sir. 09:31:31
Q. And so what you do is, you use averages to calculate birefringence. In other words, it's an average over four particles, but you use the average refractive indice -- index -- indice; right?
A. Well, we take the average bi- -- birefringence that's been calculated from the two refractive indices here minus if the parallel is a range of refractive indices. So it's the highest refractive indice for the parallel minus the highest refractive indice for the perpendicular and the lowest refractive indice for the parallel. Then we get to two refractive indice ranges. Then we average that. 09:31:51 09:32:14
Q. Dr. Longo, I asked you this before. What you told me, I believe, is that you take the average of the refractive indice, and that's what goes into your 09:32:35

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birefringence calculation. Right? You don't take the high or the low; you take the average. Right?
A. No. If I stated that, I misstated that. If you look at my reports -- and there's a lot of them -- every one of them shows exactly how it's done. And when there is a range, it's on the reports just like I've stated. 09:32:52
Q. Okay. We'll look -- we'll look at your testimony about that in a second.
But so that we can make sure that we're on the same page about how you're supposed to do it, right, you're supposed to -- this is discussed in 2003, this -- another version of Dr. Su's methodology; right? How -- how you calculate birefringence is something discussed in here? 09:33:05 09:33:36
A. Yes, sir.
Q. And so -- all right. So for parallel, what it says is:
"If a range of color -- a range of color is usually the same, make sure that the DS color that gives the highest RI is observed. 09:34:06
For example, if the DS color ranges from purple to red-purple, choose red-purple."
Right? And we'll explain what that -- but that's -- I read that correctly; right? 09:34:25

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A. You did.
Q. And for parallel -- perpendicular, it says:
"Make sure that the DS color that gives the lowest RI is observed, the DS color corresponding to the longest. For example" -- 09:34:38
A. That means -- that means matching wavelength.
Q. Matching wavelength.
"For example, if the DS color ranges from blue to light blue, choose light blue."
So that's what you are supposed to be doing; right? 09:34:52
A. That's what it states. We do a range because we want to get it more accurate, but you can do that.
Q. I'm sorry. I thought before, you said you were comparing highest to lowest. Now you're telling me again that you are using a range. Which -- which one is it? 09:35:07
A. It is a range. Each refractive indice is a range. And if you have two ranges, you have to take the -- you take the highest -- you subtract out the highest and the lowest because that corresponds to the colors you're seeing in the highest to lowest. 09:35:22
Q. No. So -- so, again, what -- what you're supposed to do is, you're supposed to take the colors that are farthest apart for perpendicular and parallel 09:35:44

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and compare those; right?
A. That's what it states.
Q. Okay. And when you say, "That's what it states," that's what it states in the method that you identified as what you were following in your direct examination; right? 09:36:00
A. Yes, sir.
We believe this is more accurate. But if you're going to take the highest and lowest, then if you do the same for fibrous talc, you're going to get similar spacing between them because as you move -- if you move the chrysotile to a little bit higher birefringence, the exact same thing is happening with the fibrous talc. 09:36:13
So I believe -- we believe it's more accurate, but either way does not change the results. 09:36:31
Q. Well, but I want to make -- I want to make crystal clear that there's no question you're using averages instead of high or low. Right? High and low.
A. We do use an average, yes, as I've stated. 09:36:52
Q. And in terms of that technique, you don't know of anywhere where the technique that you're using has been published or put into a scientific method; right?
A. I'm not aware of any, no.
Q. And so, you know, again, we can eventually look 09:37:17

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at this with some real numbers, but I'm just trying to give an idea of how --
And before we do that, let me just look. Also, you cite to, as your method -- one of your methods, ISO/PLM methods; right? 09:37:38
A. Yes, sir.
Q. And ISO similarly says when you are talking about birefringence:
"It's the quantitative expression of the maximum difference in refractive index due to double refraction." 09:37:57
Right?
A. Correct.
Q. So, again, you're talking about maximum difference in the ISO method; right? 09:38:07
A. Yes.
Q. And so we -- this is only sort of one part of it, but I just want to give you a numerical example. And, of course -- so we can figure out what we're saying. 09:38:20
So let's assume -- you know, we just have assumed values here. I'm just trying to talk about averages versus numbers.
Let's say you had a parallel value; right? And I'm not using refractive indices numbers here. I'm 09:38:35

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just trying to use just simple numbers so we understand how a average can be different than a high-low.
So if you -- let's say you had a value that stretched from 4 to 8 in parallel; right?
A. Well, I apologize, but you just can't make it that simple. You have -- it would be better to go with real numbers so you could take a look and then compare it. 09:38:52
You know, you don't have a perpendicular of zero. That would never happen. 09:39:07
Q. Well, let's just take it entirely out of the context of refractive indices for a second. I just want to talk about some basic math. Okay?
A. I'll agree to do basic math, but it's not appropriate to use this when you're looking at birefringence. But if you're taking everything out -- 09:39:26
Q. Sure. Let's just talk about basic math. Okay?
So you have got one thing that's a value of between 4 and 8; right?
A. So 4 minus 8 would give us a negative 4. 09:39:46
Q. This is a range. It's a range of 4 to 8.
A. Oh, okay.
Q. Okay? Range of 4 to 8.
And then I'm going to subtract the second number that falls somewhere in the range of zero to 4. 09:40:00

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Right? Okay? Got that?
A. I've got that.
Q. Okay. So if I -- if I compared the low, which is zero, to the high, my value would be 8; right?
A. Correct. 09:40:28
Q. But if I compared the mid points, which would be 2 and 6, then my answer would be 4; right?
A. That is correct.
Q. So --
A. But, again, that has nothing to do with the math -- it is basic math, but it's never going to look like that. 09:40:44
Q. Okay. Well, we would know what it looked like if you did it according to the method you said you relied on; right? 09:40:59
A. Well, we have the data. We can easily do the parallel and perpendicular and then compare the high and the low of chrysotile and then compare it to the answer that I gave and then compare it to high and low of the fibrous talc. 09:41:21
And what you don't -- and what, I guess, is confusing that -- changing the math on one will change the math on the other. It will move in the same direction and not change. It's still -- it will be still valid completing the two. You can't do your 09:41:39

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chart.
Q. Well, that's -- that's just not -- not true, because you don't change the math on both in the same direction; right? For one of them, you pick the high, and one of them, you pick the low. 09:41:57
So by not doing an average, you're spreading them out more, and more spread out means more like talc; right?
A. No. You can't -- we're doing -- we're analyzing and looking at the talc in the exact same method, in the range. 09:42:13
So think about it. If we're doing a high in chrysotile on the parallel and a low in the perpendicular instead of the range, which we feel is more accurate, then when you compare it to the talc -- 09:42:29
Q. No.
A. -- you have to do the exact same thing.
Q. No.
A. Yes.
Q. No. Here's the -- 09:42:38
MR. SATTERLEY: Your Honor, I object to Mr. Dubin constantly saying "No" or "You're not right." That's argumentative. His comments are not proper.
THE COURT: I think that's right.
BY MR. DUBIN: 09:42:51

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Q. But let's look. But let's look. Okay?
So the way it works, if you're doing it according to the method, is -- for -- for parallel, which side are you -- which side do you pick here? Right? 09:43:10
It says, if color ranges from red-purple to -- so we can look -- we can actually look at these colors. Right? From purple to red-purple, right, you're going to pick which -- which side?
A. Well, if we're using -- instead of the average of -- being 1.568, you would use 1.570. So that's the number if you're just taking the highest wavelength -- I mean the longest wavelength for perpendicular -- I mean parallel. Excuse me. 09:43:26
Q. Parallel -- 09:43:53
A. Then if we go to perpendicular, we'd have to -- we'd have to see that one.
Q. Okay. So blue to light blue, it says, "Choose light blue"; right?
A. No. We have to see the refractive indices that we analyzed in that particular sample so that we can do the math. 09:44:03
Q. Okay. I'm talking about -- you said it doesn't move in different directions, so I just want to focus on that. 09:44:20

STATE OF CALIFORNIA )
) ss.
COUNTY OF ALAMEDA )

I, EARLY K. LANGLEY, do hereby certify:
That foregoing proceedings were held in the above-entitled action at the time and place therein specified;
That said proceedings were taken before me at said time and place, and was taken down in shorthand by me, a Certified Shorthand Reporter of the State of California, and was thereafter transcribed into typewriting, and that the foregoing transcript constitutes a full, true and correct report of said proceedings that took place;
IN WITNESS WHEREOF, I have hereunder subscribed my hand on July 8, 2021.

EARLY K. LANGLEY, CSR No. 3537
State of California